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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/646,941 | 08/21/2003 | J. Patrick Thompson | MSFT-1749/302725.01 | 1302 |
| 41505 7590 12/27/2007 WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION) CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891 | | | EXAMINER LY, CHEYNE D | |
| | | | ART UNIT 2168 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/646,941

Applicant(s)

THOMPSON ET AL.

Examiner

Cheyne D. Ly

Art Unit

2168

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/22/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-18,21-51,53-59,62-68,70-76 and 79-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-18,21-51,53-59,62-68,70-76 and 79-84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 12, 2007 has been entered.
2. Applicants' arguments have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.
3. The cancellation of claims 2, 19, 20, 52, 60, 61, 69, 77, and 78 has been entered.
4. Claims 1, 3-18, 21-51, 53-59, 62-68, 70-76, and 79-84 are examined on the merits.

OBJECTIONS

5. Claim 34 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Double Patenting

6. Applicant is advised that should claims 4-15 be found allowable, claims 21-32 and 35-38 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the

same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 51, 53-59, and 62-67 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

9. The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material per se.

10. Descriptive material can be characterized as either “functional descriptive material” or “nonfunctional descriptive material.” Both types of “descriptive material” are nonstatutory when claimed as descriptive material per se, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)

11. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.”).
12. It is noted that claim 51, line 1, recites “for a computer system” has been interpreted as an intended use wherein the body of the claim does not recite any structural limitations that causes the descriptive material to become structurally and functionally interrelated to the structural limitation.

CLAIM REJECTIONS - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 1-18, 33-59, 62-76, and 79-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over D'Andrea & Janus (1996) (D'Andrea hereafter) taken with Shiman et al. (US 2002/0019827A1) (Shiman hereafter).

CLAIM INTERPRETATIONS

16. It is noted that D'Andrea discloses "four fundamental object extensions...Taken together with extension #1, class composition, the data model is a Directed Acyclic Graph (DAG)" (page 71, last paragraph). The disclosure anticipates the pluralities of relationships of the claimed invention as discussed below. Further, the citation portion of D'Andrea discloses 4 types of objects (Items) as defined by the instant specification (page 32). The objects (Items) anticipate the limitations of first and second Items required by the claims as discussed below.
17. Specific to the limitation of "boundaries", the instant specification describes the "boundaries" as the Item being represented by its properties (including complex property types, extensions, and so forth) (paragraph [0327]-[0330]). D'Andrea describes objects can be as simple as single binary bit, as complex as a aircraft carrier wherein objects are defined in terms of other objects (boundaries). Further, attributes may refer to other objects or may be of some atomic scalar base datatype such as a numeric, character string, etc. (list) (page 72, second paragraph). It is noted that the cited disclosure by D'Andrea (page 71, last paragraph, page 72, second paragraph) has been interpreted to anticipate the new limitation of "each of said Items having a boundary comprising an item type, applicable subtype information, complex type properties and extensions if any,

and a list of the other Items owned by the Item” as defined by the instant application (paragraph [0327]-[0330]) of the published application).

MOTIVATION TO COMBINE

18. Shiman describes the use of well known in the art database to manage the storage of documents and objects (page 1, [0003], and page 4, [0067]). While, D’Andrea describes an improvement for the next generation DBMS that is fast and cost-effective by taking advantage of the flexibility, productivity, and performance benefits of OO modeling (Abstract etc.). One of ordinary skill in the art at the time of the invention would have been motivated by D’Andrea to improve the well known in the art database method of Shiman with fast and cost-effective method method of D’Andrea by taking advantage of the flexibility, productivity, and performance benefits of OO modeling.

BASIS FOR PRIOR ART

19. In regard to claim 1, D’Andrea discloses a computer-readable medium with computer-readable instructions for a hardware/software interface system for a computer system (pages 73-74, Balanced Client-Server Architecture section, and pages 75 and 76, 3rd paragraph), wherein said hardware/software interface system manipulates a plurality of discrete units of information (page 72, 2nd paragraph), said items interconnected by a plurality of Relationships managed by said hardware/software interface system (page 71, last paragraph), each of said Items having a boundary comprising an item type, applicable subtype information, complex type properties and extensions if any, and a list of the other Items owned by the Item (page 71, last paragraph, page 72, second paragraph).

20. However, D'Andrea does not describe further wherein the list of other Items owned by the Item identifies other Items the Item extends an owning relationship to, further wherein an Item that extends an owning relationship controls at least the life time of the relationship; and instructions for a hardware/software interface system to generate the owning relationship extending from a first Item to a second Item, wherein an owning relationship extending from the first Item to the second Item denotes to said hardware/software interface system that content of said second Item is publicly accessible to said first Item, and a lack of an owning relationship extending back from said second Item to said first Item denotes to said hardware/software interface system that content of said first Item is inaccessible to said second Item.
21. Shiman describes wherein the list of other Items owned by the Item identifies other Items the Item extends an owning relationship to, further wherein an Item that extends an owning relationship controls at least the life time of the relationship (page 6, [0086], e.g. when a document is deleted...leaving holes in the history tree, page 6, [0094], e.g. removal of a discussion group often necessitates removal of related e-mail objects); and instructions for a hardware/software interface system to generate the owning relationship extending from a first Item to a second Item, wherein an owning relationship extending from the first Item to the second Item denotes to said hardware/software interface system that content of said second Item is publicly accessible to said first Item (pages 5-6, [0083], e.g. owner has joined...a user need only be in one of the related discussion groups to view the document, page [0092], owner relationship is unidirectional: every discussion group is owned by exactly one user, but a user is not owned by a discussion

group,), and a lack of an owning relationship extending back from said second Item to said first Item denotes to said hardware/software interface system that content of said first Item is inaccessible to said second Item page [0092], owner relationship is unidirectional: every discussion group is owned by exactly one user, but a user is not owned by a discussion group, and pages 7-8, [0109], [0114], and [0115]).

22. Therefore, it would have been obvious to one of ordinary skill in the art to use the system of D'Andrea with the owning relationship of Shiman to take advantage of the flexibility, productivity, and performance benefits of OO modeling.
23. In regard to claims 3 and 34, D'Andrea in view of Shiman discloses the Relationship from said first Item to said second Item logically denotes in said hardware/software interface system that the said second Item is public and accessible to said first Item (page 72, 2nd paragraph, and page 73, lines 3-4). It is noted that the disclosure of an object-oriented data model comprising inheritance and encapsulation wherein shared attributes may be stored once in the class instance and shared amongst all instances of the class reasonably support the limitation of "second Item is public and accessible to said first Item."
24. In regard to claims 4, 21, and 35, D'Andrea in view of Shiman discloses the first item is an Item Folder (page 71, last paragraph and page 71, last paragraph). It is noted the disclosure of "class" by D'Andrea has been interpreted as an Item Folder as described by the instant specification (page 37).
25. In regard to claims 5, 22, and 36, D'Andrea in view of Shiman discloses the second Item is an Item Folder (page 71, last paragraph and page 71, last paragraph). It is noted that

D'Andrea discloses "The datatype of a column can be a class" (page 71, last paragraph) and a plurality of datatypes (page 71, last paragraph). Therefore, the disclosure by D'Andrea of a plurality of different classes has been interpreted as the second Item is an Item Folder (class):

26. In regard to claims 6, 23, and 37, D'Andrea in view of Shiman discloses the second Item is a Category (page 71, last paragraph). It is noted the disclosure of "collections" by D'Andrea has been interpreted as a Category as described by the instant specification (page 37).
27. In regard to claims 7, 24, and 38, D'Andrea in view of Shiman discloses the second Item is an Item that is not an Item Folder or a Category (page 71, last paragraph). It is note the disclosure of "attribute" and "Methods" have interpreted as an Item that is not an Item Folder or a Category.
28. In regard to claims 8 and 25, D'Andrea in view of Shiman discloses said first Item is a Category (page 71, last paragraph).
29. In regard to claims 9, 26, and 44, D'Andrea in view of Shiman discloses wherein said second Item is an Item Folder (page 71, last paragraph).
30. In regard to Claims 10, 27, and 45, D'Andrea in view of Shiman discloses wherein said second Item is a Category (page 71, last paragraph).
31. In regard to claims 11, 28, and 46, D'Andrea in view of Shiman discloses wherein said second Item is an Item that is not an Item Folder or a Category (page 71, last paragraph).
32. In regard to claims 12, 29, and 43, D'Andrea in view of Shiman discloses wherein said first Item is an Item that is not an Item Folder or a Category (page 71, last paragraph).

33. In regard to claims 13 and 30, D'Andrea in view of Shiman discloses wherein said second Item is an Item Folder (page 71, last paragraph).
34. In regard to claims 14 and 31, D'Andrea in view of Shiman discloses wherein said second Item is a Category (page 71, last paragraph).
35. In regard to claim 15, D'Andrea in view of Shiman discloses wherein said second Item is not an Item Folder or a Category (page 71, last paragraph).
36. In regard to claims 16, and 40, D'Andrea in view of Shiman discloses said second Item is an Item Folder (page 71, last paragraph).
37. In regard to claims 17, and 41, D'Andrea in view of Shiman discloses said second Item is a Category (page 71, last paragraph).
38. In regard to claims 18, and 42, D'Andrea in view of Shiman discloses said second Item is an Item that is not an Item Folder or a Category (page 71, last paragraph).
39. In regard to claim 33, D'Andrea in view of Shiman discloses said second Item has a Relationship to said first item (page 71, last paragraph).
40. In regard to claim 39, D'Andrea in view of Shiman discloses said first Item is a Category (page 71, last paragraph).
41. In regard to claim 47, D'Andrea in view of Shiman discloses each Item from among said Items has a relationship to at least one other Item (page 71, last paragraph).
42. In regard to claim 48, D'Andrea in view of Shiman discloses a subset of Items comprise Item Folders (page 72, 2nd paragraph, and page lines 6-7).
43. In regard to claim 49, D'Andrea in view of Shiman discloses a subset of Items comprise Categories (page 72, 2nd paragraph, and page lines 6-7).

44. In regard to claim 50, D'Andrea in view of Shiman discloses a subset of Items comprise Items that are not Item Folders or Categories (page 72, 2nd paragraph, and page lines 6-7).
45. D'Andrea in view of Shiman describes the system and method recited by claims 51, 53-59, 62-68, 70-76, and 79-84 as cited above.

CONCLUSION

46. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.
47. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199. The USPTO's official fax number is 571-272-8300.

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48. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716.

The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

49. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo, can be reached on (571) 272-3642.

/Cheyne D Ly/
C. Dune Ly
Primary Examiner
26/12/2007